

part of the deal. The beekeeper's work to ensure that wintering goes smoothly should have been done months ago in the Autumn. In January, beekeepers should be tucked up in front of a blazing fire with a good bee book and a glass of mead. In my opinion, the extent of beekeeping activity in January should not go beyond a stroll round the apiary

to work off the Christmas excesses and to make sure that the hives are OK. Are the hives mouse-proof? Is snow or debris blocking the entrances? Have hives been knocked over by wind or animals? A little care for the bees now will reward you next Spring.

Happy beekeeping.

Varroa Treatment using the Nassenheider Evaporator

N Salmon shares his experiences

I decided, quite early on, that I wanted to avoid the use of 'hard' chemicals such as Bayvarol for treating varroa in my hives.

Testing for varroa, I used 10 ml of 80% formic acid on a fume pad, placed in a varroa test tray overnight. I detected the first mite last Autumn.

This year, beyond monitoring mite levels, I did nothing except plan what I was going to do later in the season. In April, I saw the Nassenheider Evaporator being demonstrated. The problem with treating with formic acid *below* the broodnest was that the outside temperature must be between 12 °C and 25 °C. As night-time temperatures are often below 12 °C, it made planning difficult.

The evaporator

When used correctly, the Nassenheider Evaporator is independent of external temperatures. It has a reservoir which holds up to 200 ml of formic acid. This is connected to a small trough into which the wick is inserted. A small wick is used for treatment in August, when there is still a good-sized broodnest being kept at 35 °C, and a longer one for when there is little or no brood in the hive, with a consequently lower temperature. The evaporator is fixed halfway up an empty brood frame. The reservoir is filled with 100 ml of 60% formic acid. I actually used 120 ml so that it did not run dry before the treatment had finished.

With the correct size of wick fitted, the evaporator frame is placed in the brood box. In early August, I placed it at the end, furthest from the entrance, instead of the dummy frame I keep

there. The varroa test tray was inserted under the broodnest and the hive left alone for 10 days. Then the evaporator was removed and checked.

For a successful treatment, a *minimum* of 7 ml/day must evaporate, ie, at least 70 ml of the acid must have evaporated during the 10-day treatment. The test tray was removed to check the mite knockdown. I couldn't count them! The tray was 'black with mites'.

Second treatment

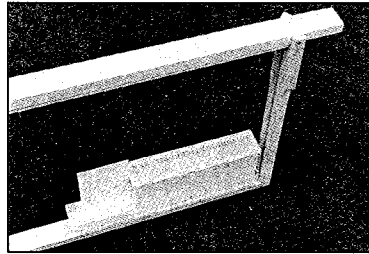
I re-treated at the end of September, using the larger wick and inserting the evaporator frame for 10 days just inside the cluster, as there was no brood. I originally put the evaporator at the edge of the brood box, as I had done in August, but very little evaporation took place. Again, a fairly substantial mite knockdown occurred in one hive. The next treatment will be in Spring 1997 before the supers go on.

I hope this will be all the treatment that is needed until August 1997, but I will monitor the natural mite fall at intervals. I don't like the idea of cutting out drone comb on a weekly basis – it seems too labour intensive, and I suspect that the constant disturbance could cause other disease to flare up because the bees are being stressed more. Swarms, of course, will be treated at any time.

The bees' reaction

At no time during the treatment did the bees show any adverse reaction to the acid, as happens when a pad containing 80% acid is inserted under the broodnest. Neither was there any increase in bee mortality. The bees did display a very slight worsening of temper whilst being treated, and they would often be seen tugging at a bee that had just passed close to the evaporator. I think the acid confuses the hive odour and this may also be the reason for the slight increase in excitability in some bees.

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I am very pleased with the Nassenheider evaporator, and would urge others to try it, **IF THEY FEEL HAPPY HANDLING FORMIC ACID**. I work in a laboratory and have access to a fume hood, etc. For those who don't, a few common sense rules should be adhered to:

- » DO wear eye protection
- » DO wear rubber gloves
- » DO work outside in the open air, with any breeze blowing from you to the acid
- » DO place all the containers in a plastic tray and work over this all the time when diluting the acid
- » DO add **acid** to **water**, not the other way round
- » DO keep a large container of water handy at all times. If you do splash acid on yourself, wash the affected part with copious amounts of water **IMMEDIATELY**
- » DO **NOT** inhale acid vapours

In the Apiary:

January – looking to the future

Karl Showler reports on his varroa monitoring

It is difficult, as an enthusiastic beekeeper, to enter into the mind of those whose main interests lie elsewhere, for whom keeping bees is but a casual activity. The arrival of the varroa mite, like that of the acarine mite 90 years ago, will have a profound effect on such bee-owners themselves.

I believe it is safe to say that let-alone beekeepers, who enjoy the presence of their bees but do nothing by

way of manipulation, will give up the craft. The need to monitor the mite population of each hive and treat against them will eliminate such uncaring apiarists. Keeping bees will become much more like keeping other livestock, where there is a need to tend them actively.

I still meet those who have bees who say they will leave nature to take its course as no natural parasite kills all its hosts. This is not to say that their own bees will be among the very small number of survivors. As the varroa mite is an exotic man-introduced parasite,